

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 61-036985

(43)Date of publication of application : 21.02.1986

(51)Int.Cl.

H01S 3/103

G02B 5/30

G02B 26/00

(21)Application number : 59-158212

(71)Applicant : FUJITSU LTD

(22)Date of filing : 28.07.1984

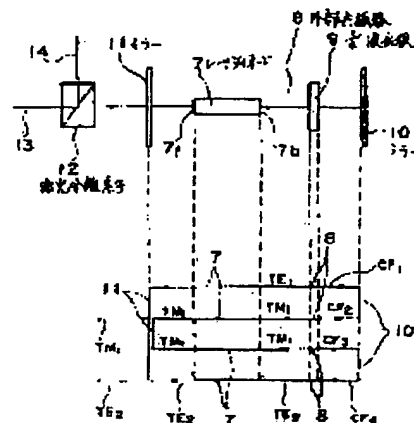
(72)Inventor : SHIRASAKI MASATAKA

## (54) LASER DEVICE

### (57)Abstract:

**PURPOSE:** To take out the light output of two modes from one semiconductor laser with stability by arranging a 1/4 wavelength plate in an external resonator of semiconductor laser.

**CONSTITUTION:** When the light of TE1 mode of straight polarization (TE wave) is emitted from a back part 7b of a laser diode 7 and it enters into a 1/4 wavelength plate 9, the projected light from the plate 9 becomes circularly polarized light CF1 and is reflected by a rear mirror to become polarized light CF2. Then the light enters into the plate 9 again from the back and is projected by the crossing component with the TE wave, i.e., TM wave. The light passes through the diode 7 and the plate 9 to become circularly polarized light CF3. The light CF3 reflected by the mirror 10 enters into the plate 9 to become TE2 wave and passes the diode 7 and is emitted from the mirror 11. Namely, TE wave projected from the diode 7 reciprocates to the plate 9 and becomes TM wave. It becomes a laser of one period by two reciprocation. And by one reciprocation, the light becomes the polarized light state which crossing each other.



## LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]